

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claim 1 (currently amended)
Claim 2 (currently amended)
Claim 3 (previously amended)
Claim 4 (previously amended)
Claim 5 (original)
Claim 6 (original)
Claim 7 (cancelled)
Claim 8 (previously amended)
Claim 9 (previously added)
Claim 10 (currently amended)
Claim 11 (currently amended)
Claim 12 (previously added)
Claim 13 (previously added)
Claim 14 (previously added)
Claim 15 (previously added)
Claim 16 (previously added)
Claim 17 (previously amended)
Claim 18 (previously added)
Claim 19 (previously added)
Claim 20 (currently amended)

1 1. (Currently Amended) Data entry device comprising:
2 a keyboard having a plurality of multifunction key positions
3 with at least a separate multifunction key position for each
4 alphabetic character;
5 a plurality of movable keys each key containing an
6 inscription on the keycap thereof representing a character or
7 function and containing a multi-bit binary code therein
8 identifying the character or function on the keycap, each of said
9 keys being capable of being selectively positioned in any one of
10 the key positions in the keyboard[, said keys] and being
11 responsive to user contact to the keycaps thereof;
12 [a] an uncoded circuit matrix of detectors disposed below
13 said keyboard each of said circuit matrix detectors being capable
14 of detecting the binary code of any one of the keys when that any
15 one of the keys is positioned above it and is contacted to
16 produce an electrical signal representative of the binary code
17 associated with the contacted key;
18 a standard interface connector to connect the keyboard to a
19 computer; and
20 a read only controller providing a different response for
21 each binary code on a key for converting the output of the
22 circuit matrix for [the] any contacted key to one which is
23 recognizable by the computer so that the output of the keyboard
24 provided to the standard interface connector correctly identifies
25 the contacted keys character or function to the computer
26 irrespective of the position of the key on the keyboard.

1 2. (Currently Amended) The data entry device of Claim 1,
2 wherein the controller includes only a single read only look-up
3 table responsive to the multi-bit output of the circuit matrix
4 the multi-bit codes for each of the keys to provide a standard
5 scan code signal recognizable by any computer compatible with the
6 interface connector irrespective of the keys position of the
7 position of the key.

1 3. (Previously Amended) The data entry device of Claim 2 wherein
2 the keys have in the base of the key a plurality of locations
3 each representing one digit in the multi-bit binary code and one
4 or more pins each positioned one of the locations so that the
5 keys all contain a different combination of locations with posts
6 and without posts to identify them distinctively from the other
7 keys in accordance with the multi-bit binary code.

1 4. (Previously Amended) The data entry device of Claim 2 wherein
2 the keys each have a circuit embedded therein storing the multi-
3 bit binary code identifying each key distinctively from the other
4 keys and have electrical contacts providing excitation to the
5 circuit and connecting it to the matrix to provide a multi-bit
6 code signal to the controller to identify the key.

1 5. (Original) The data entry device of Claim 3 wherein the
2 circuit matrix provides the bits of the multi-bit binary code to
3 the controller in parallel.

1 6. (Original) The data entry of Claim 4 wherein the circuit
2 matrix provides the bits of the multi-bit binary code to the
3 controller serially.

7. (Cancelled)

1 8. (Previously Amended) The data entry device of Claim 2
2 wherein the circuit matrix contains a plurality of capacitive
3 switches each switch responsive to one of the pins to generate a
4 key make signal.

1 9. (Previously added) The data entry device of Claim 2 wherein
2 the keyboard has openings to accept the keys and expose the
3 multi-bit binary code stored therein to the circuit matrix
4 wherein the keys are spring loaded with arms with feet that hold
5 the keys in position and are flexible to enable removal of the
6 key and the binary code therein from the keyboard to permit
7 selective placement of the keys in desired keyboard locations.

1 10. (Currently Amended) Data entry device for the disabled
2 comprising:

3 a keyboard having a plurality of multifunction key positions
4 with at least a separate multifunction key position for each
5 alphabetic character;

6 a set of movable keys each key of the set containing an
7 inscription on the keycap thereof representing a different
8 character or function of the key in the set and containing a
9 multi-bit binary code stored therein identifying the character or
10 function of the particular key, said keys being capable of being
11 positioned in any one of the key positions in the keyboard so
12 that any key and its character identifying code can be placed in
13 any key position, said keys being responsive to user contact to
14 the keycaps thereof,

15 a circuit matrix disposed below and in a fixed relationship
16 to said keyboard, said circuit matrix having detection positions
17 for each of the plurality of keys which detection position are
18 each capable of detecting the binary code of any one of the keys
19 when that key is contacted to produce an electrical signal
20 representative of the binary code associated with the contacted
21 key;

22 a standard interface connector to connect the keyboard to
23 any computer compatible with the interface; and

24 a read only controller providing a different response for
25 each key carried binary code identifying its key for converting
26 the output of the circuit matrix for any contacted key to one
27 which is recognizable by the computer so that the output of the
28 keyboard provided to the standard interface connector correctly

29 identifies the contacted keys character or function to the
30 computer irrespective of the position of the contacted key on the
31 keyboard so that the key can be moved to configure the keys on
32 the keyboard in accordance with a users disability.

1 11. (Previously added) The data entry device of Claim 10,
2 wherein the controller includes only a single read only look-up
3 table responsive to the multi-bit output of the circuit matrix
4 [of] for each of the keys to provide a standard scan code signal
5 recognizable by any computer compatible with the interface
6 connector which does not depend on the keys position in the
7 keyboard.

1 12. (Previously added) The data entry device of Claim 10
2 wherein the keys have in the base of the key and movable with key
3 a plurality of locations each representing one digit in the
4 multi-bit binary code and one or more pins each positioned one of
5 the locations so that the keys all contain a different
6 combination of locations with posts and without posts to identify
7 them distinctively from the other keys in accordance with the
8 multi-bit binary code.

1 13. (Previously added) The data entry device of Claim 10
2 wherein the keys each have a circuit embedded therein storing the
3 multi-bit binary code identifying each key distinctively from the
4 other keys and have electrical contacts providing excitation to
5 the circuit and connecting it to the matrix to provide a multi-
6 bit code signal to the controller to identify the key.

1 14. (Previously added) The data entry device of Claim 11
2 wherein the circuit matrix provides the bits of the multi-bit
3 binary code to the controller in parallel.

1 15. (Previously added) The data entry device of Claim 12 wherein
2 the circuit matrix provides the bits of the multi-bit binary code
3 to the controller serially.

1 16. (Previously added) The data entry device of Claim 11
2 wherein the circuit matrix contains a plurality of capacitive
3 switches each switch responsive to one of the pins to generate a
4 key make signal.

1 17. (Previously Amended) The data entry device of Claim 8
2 wherein the keyboard openings accept the keys and expose the
3 multi-bit binary code stored therein to the circuit matrix
4 wherein the keys are spring loaded with arms with feet that hold
5 the keys in position which arms are flexible to enable removal of
6 each of the keys and the binary code therein from the keyboard
7 independently of the other keys so that removal and replacement
8 of one key does not require movement of adjacent keys to permit
9 selective placement of the keys in desired keyboard locations.

1 18. (Previously added) The data entry device of claim 8 wherein
2 the keyboard openings accept the keys and expose the multi-bit
3 binary code stored therein to the circuit matrix wherein the keys
4 are spring loaded with arms with feet that hold the keys in
5 position which arms are flexible to enable removal of each of the
6 keys and the binary code therein from the keyboard independently
7 of the other keys to permit selective placement of the keys in
8 desired keyboard locations without disturbing other keys.

1 19. (Previously added) The data entry device of claim 10,
2 wherein the multifunction key position includes a plurality of
3 spaced keyboard openings in the top surface of the keyboard, one
4 opening for each key position.

1 20. (Currently amended) Data entry device for the disabled
2 comprising:

3 a keyboard having a plurality of universal key positions, at
4 least a separate universal key position for each alphabetic
5 character each position having an opening in a top surface of the
6 keyboard;

7 a set of movable keys each key of the set containing an
8 inscription on the keycap thereof representing a different
9 character or function of the key in the set and containing a
10 multi-bit binary code stored therein identifying the character or
11 function of the particular key, each key being capable of being
12 positioned through the opening for any one of the key positions
13 in the keyboard so that any key and its character identifying
14 code can be placed in any key position desired by a disabled user
15 without disassembly of the keyboard, said keys being responsive
16 to user contact to the keycaps thereof,

17 a circuit matrix disposed below and in a fixed relationship
18 to said keyboard, said circuit matrix having detection positions
19 a different one aligned with each of the openings for each of the
20 plurality of keys, which detection positions are each capable of
21 detecting the binary code of any one of the keys when that key
22 positioned in its aligned opening is contacted by the disabled
23 user to produce an electrical signal representative of the binary
24 code associated with the contacted key;

25 a controller for converting the output of the circuit matrix
26 for any contacted key to one which is recognizable by the
27 computer as the code for the character or function represented by
28 the inscription on the contacted key so that the output of the
29 keyboard provided to the standard interface connector correctly
30 identifies the contacted keys character or function to the
31 computer irrespective of the position of the contacted key on the
32 keyboard; and

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33 a standard interface adapter for transmission of converter
34 outputs so that the keys can be moved to position the keys on the
35 keyboard to accommodate the users disability without otherwise
36 modifying or disassembly of the keyboard or modifications of
37 keyboard or computer software.